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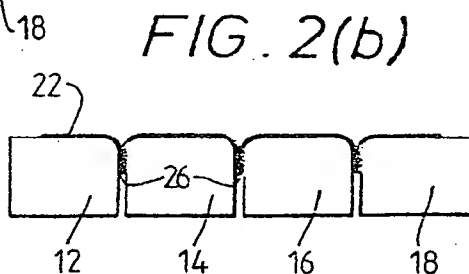
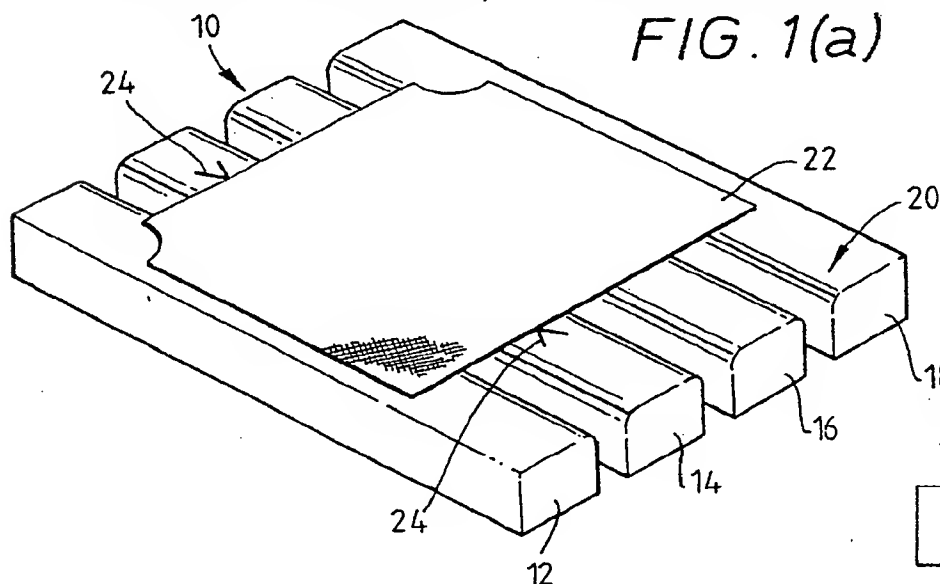
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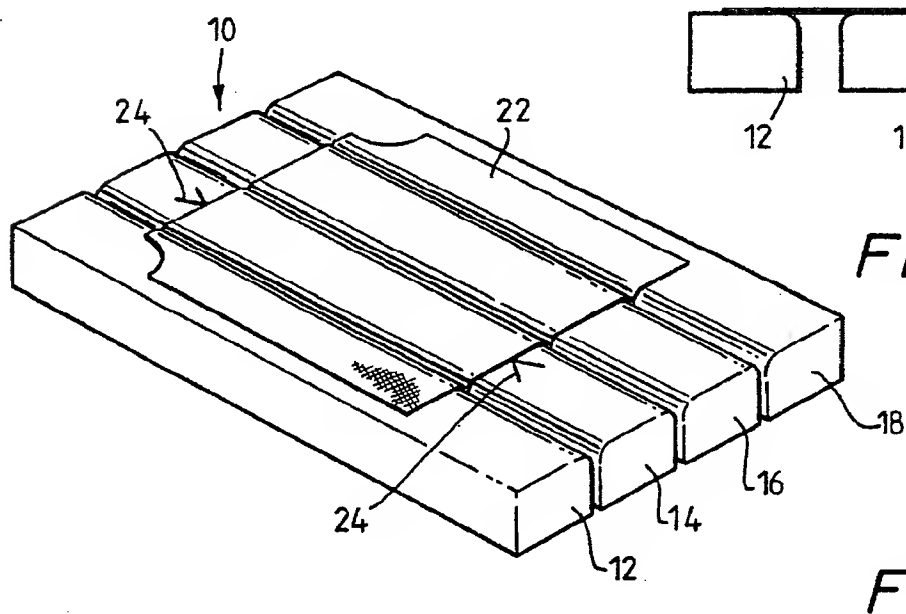
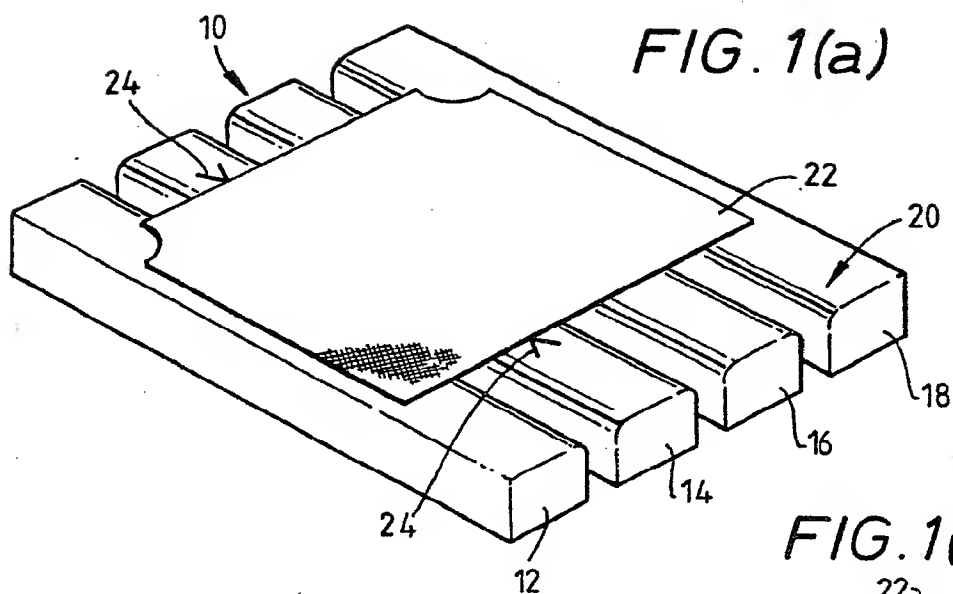
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UK CL (Edition J) D1A D1S
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(54) Creasing press

(57) A press 10 for the production of two or more creases simultaneously in a piece of fabric 22 which comprises a bed portion 20 for receiving the fabric 22 to be creased, the bed being divided into three or more lands 12, 14, 16, 18. Each of the lands is moveable with respect the the next adjacent land, and each land is provided with means for gripping the fabric such as a porous upper surface connected to a source of vacuum. The lands are moved apart a predetermined amount and the fabric placed on the upper surfaces thereof. The fabric is held in position by means of vacuum. The lands are then brought back together causing the fold of fabric to depend between, and be creased by each adjacent pair of lands. Vertical side wall portions of each of the lands is provided with heat and /or steam and /or vacuum as with conventional presses. By this means two or more creases are produced simultaneously.



At least one drawing originally filed was informal and the print reproduced here is taken from a later filed formal copy



CREASING PRESS

2214202

This invention relates to a creasing press and in particular relates to a press capable of inserting two or more creases simultaneously.

Certain garments such as shirts, particularly for uniforms, are required to be provided with creases. In particular shirts for Amercian uniforms carry three creases on the back panel. The production of these creases is a relatively complicated and time-consuming operation, especially where the creases are set using a crease retaining method such as that disclosed in our patent publication No. EP-A0067528 known as the "Lintrak" process. Currently the way of achieving this employs three people, one marking the crease portion, one pressing the crease with a hot head press, and one applying the "Lintrak" process in a complicated manner which involves completing the centre crease first and then repeating the process a second time for the two outer creases. The reason for this relatively complex operation is that the pressing of subsequent creases tends to remove earlier creases.

The invention seeks to provide a form of press in which the above problems can be reduced or eliminated.

According to the present invention there is provided a press for the production of two or more creases simultaneously which comprises a bed portion for receiving the fabric to be creased, the bed being divided into three or more lands, each of the lands being moveable with respect to the next adjacent land and each land being provided with means for gripping the fabric.

Preferably the means for gripping the fabric is the provision of a porous surface connected to a source of vacuum. In operation of the press of the invention, the lands are moved apart a predetermined amount and the fabric

placed on the bed portion being held there by means of vacuum. The lands are then brought back together causing a fold of fabric to depend between, and be creased by, each adjacent pair of lands. To this end the vertical side wall portions of each of the lands may be provided with heat and/or steam and/or vacuum as with conventional presses. By this means two or more creases are produced simultaneously. To produce a pair of creases requires three lands, to produce three creases requires four lands, and so on.

The bed portion, that is the upper faces of the lands, may be marked out to facilitate the accurate placing of a piece of fabric so that the creases are formed in exactly the right position. Thus in the production of creases in a piece of fabric, for example a shirt back, one operator only is needed who operates the press of the invention to move the lands apart, places the fabric against the bench marks on the bed portion of the press, operates the press to bring the lands together thereby forming the creases simultaneously, after which, if desired, the Lintrak process can be applied to each of the three creases without any intervening further pressing operation. This considerably reduces the processing time for each panel of fabric and requires only one operator instead of the previous three.

The invention will be described further, by way of example, with reference to the accompanying drawings, in which:

Figure 1 (a) is a diagrammatic perspective, and figure 1 (b) is an elevational, view of the press in accordance with the invention with the lands separated; and

Figures 2 (a) and (b) are similar view to figure 1 with the lands together.

Referring to the drawings, a creasing press generally designated 10 is illustrated having, in this case, four

land portions 12, 14, 16, 18. The upper surfaces of the land portions constitute a bed 20 on which a portion of fabric 22 to be creased is placed. Bench-marks 24 may be made where necessary on the bed 20 to facilitate the accurate placing of the fabric piece 22.

The land portions are moveable towards and away from one another from the position illustrated in figure 1 (b) to the position illustrated in figure 2 (b). The mechanism for performing this motion is not shown in the drawings, but will be readily apparent to one skilled in the art. It will be appreciated that it is not necessary for all of the land portions to be moveable, one can be stationary and the others moveable with respect thereto. In any event, the land portions move to the position shown in figure 1 (b) where they are at a predetermined separation from one another, and at this stage the fabric piece 22 is placed on the bed 20 aligned with the bench marks 24. The upper surfaces of the land portions 12, 14, 16, 18 are porous and vacuum is drawn thereby firmly securing fabric piece. The land portions then move together to the configuration shown in figure 2 (b) trapping folds 26 of fabric between adjacent land portions. The vertical side walls of the land portions may also be porous so that steam can be blown, and/or vacuum drawn, therethrough to set creases in the folds 26. Alternatively, especially with thermo-setting textile materials, the side walls may merely be heated, e.g. electrically. In either case the land portions are moved together with sufficient force to set a sharp crease in each of the folds 26. Once the necessary crease setting time has elapsed, the lands move apart again to the position shown in figure 1 (b) and the fabric piece is removed having three accurately formed sharp creases set therein. The fabric may then be further processed, for example by application of the "Lintrak" process referred to above after which the portion 22 will be made up into a

garment such as a shirt.

It is obviously possible to vary the distance between the creases, e.g. by altering the size of the land portions. However, it is also possible to vary the distance between the creases to a small extent, in use, by varying the degree to which the fabric is allowed to depend between the lands, i.e. the depth of the folds 26, for example by varying the separation of the leads in the figure 1 (b) position.

- 10 The creasing press of the invention provides a simple and effective solution to the simultaneous production of sharp setable creases and fabric pieces which has hitherto required a complex sequence of events and a number of operators in order to be carried out successfully.

CLAIMS

5 1. A press for the production of two or more creases
simultaneously which comprises a bed portion for receiving
a fabric to be creased, the bed being divided into three or
more lands, each of the lands being moveable with respect
to the next adjacent land each land being provided with
10 means for gripping the fabric.

2. A press as claimed in claim 1 in which the means for
gripping the fabric is the provision of a porous surface
connected to a source of vacuum.
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3. A press as claimed in either of claims 1 or 2 in
which the vertical side wall portions of some or each of
the lands is provided with heating means.

20 4. A press as claimed in claim 3 in which the heating
means comprises a porous surface capable of being supplied
with steam.

5. A press as claimed in either of claims 3 or 4 in
25 which the vertical side wall portions of some or each of
the lands is provided with a porous surface capable of
being connected to a vacuum source.

6. A press as claimed in any of claims 1 to 5 having
30 four lands.

7. A press as claimed in any of claims 1 to 6 in which
the upper faces of the lands are marked out to facilitate
the accurate placing of a piece of fabric.

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8. A press substantially as herebefore described with reference to and as illustrated in the accompanying drawings.



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 01 12 8318

DOCUMENTS CONSIDERED TO BE RELEVANT			Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
Category	Citation of document with indication, where appropriate, of relevant passages			
X ✓	EP 0 805 116 A (GD SPA)	5 November 1997 (1997-11-05)	1	B65G47/84 D06J1/02 B65H45/10 A61F13/15
A	* the whole document *		2-7	
X ✓	EP 0 974 323 A (PROCTER & GAMBLE)	26 January 2000 (2000-01-26)	8,10,11	
A	* abstract; claims; figures *		12,15	
Y ✓	US 4 767 487 A (TOMSOVIC JR JAMES E)	30 August 1988 (1988-08-30)	8	
Y ✓	* abstract; claims; figures *		8	
Y ✓	GB 2 214 202 A (WOOL DEV INT)	31 August 1989 (1989-08-31)	9	
A ✓	* abstract; claims; figures *		8,10	
A ✓	US 5 080 030 A (TADDICKEN HERMANN)	14 January 1992 (1992-01-14)	10,13,15	
A ✓	* abstract; claims; figures *		8,10,11,15	
A ✓	DE 43 12 582 A (KLEBER TEXTIL GMBH & CO KG)	20 October 1994 (1994-10-20)	10-12,15	
A ✓	* abstract; claims; figure 7 *			
A ✓	US 4 240 866 A (REGA JOHN F)	23 December 1980 (1980-12-23)		
A ✓	* abstract; claims; figures *			
A ✓	EP 0 451 705 A (KIMBERLY CLARK CO)	16 October 1991 (1991-10-16)		
A ✓	* claims; figures *			
A ✓	US 5 669 996 A (JESSUP JAMES LYLE)	23 September 1997 (1997-09-23)		
A ✓	* abstract; claims; figures *			

The present search report has been drawn up for all claims		Examiner Van Rollegheem, F
Place of search THE HAGUE	Date of completion of the search 20 June 2002	
CATEGORY OF CITED DOCUMENTS		
X: particularly relevant if taken alone Y: particularly relevant if combined with another document of the same category A: technological background O: non-written disclosure P: intermediate document		

EPO FORM 1503 03 82 (P04C01)

T: theory or principle underlying the invention
E: earlier patent document, but published on, or after the filing date
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L: document cited for other reasons
&: member of the same patent family, corresponding document